

NOTES

Note on the Distribution of *Euphausia eximia* and *E. gibboides* in the Equatorial Pacific

CLAUDE ROGER¹

THE MATERIAL here considered was collected during the Alizé cruise of the R.V. "Coriolis" from the Centre O.R.S.T.O.M. Noumea. The Alizé collections extended from 92°20'W to 162°45'E along the equator. The samples were taken with a 5-ft Isaacs-Kidd midwater trawl, towed obliquely from a depth of 300 m to the surface.

GENERAL RESULTS

The distributions of the whole euphausiid fauna will be discussed in detail in a further publication. At present they appear to be not far different from those described by Brinton (1962); however, two features become evident:

1. There is an evolution of the specific composition of the euphausiid fauna from east to west.

2. Two species among the most important ones, *Euphausia eximia* Hansen and *E. gibboides* Ortmann, have been caught not only in the eastern equatorial Pacific as previously recorded (Brinton, 1962), but also in the Central Pacific, as far westward as 164°15'W and 148°07'W, respectively. The present note deals with the occurrence of these two species in Central Pacific waters.

DISTRIBUTION OF *Euphausia eximia*

Table 1 lists the stations at which *E. eximia* were taken.

According to Brinton (1962), the farthest westward record for this species is 118°W in the South Equatorial Current (2°N–2°S) and 145°W at 10°N. During the Alizé expedition,

¹ Section Oceanographie, Centre O.R.S.T.O.M. de Noumea, New Caledonia. Manuscript received May 18, 1966.

TABLE 1
QUANTITATIVE DISTRIBUTION OF
E. eximia AND *E. gibboides*

STATIONS	NUMBER PER STANDARD HAUL*	E. <i>eximia</i>	E. <i>gibboides</i>
0.50S, 92.20W	752		316
0.49S, 95.28W	416		58
0.53S, 98.18W	6,224		272
1.00S, 101.14W	780		36
0.16S, 103.48W	2,856		256
0.05S, 106.45W	2,136		96
0.40S, 109.10W	1,233		33
0.20S, 115.40W	896		7
0.03N, 118.27W	585		24
0.00, 120.45W	933		45
0.40S, 123.35W	1,330		0
0.40S, 125.53W	558		16
0.33S, 128.26W	183		5
0.19S, 131.42W	40		5
0.33S, 134.46W	277		4
0.17S, 137.45W	17		3
0.01N, 145.06W	0		0
0.14S, 148.07W	0		1
0.27S, 151.15W	0		0
0.28S, 154.38W	0		0
0.38S, 158.10W	0		0
0.22S, 161.06W	1		0
0.20S, 164.15W	2		0
0.23S, 167.30W	0		0
0.28S, 170.30W	0		0
0.23S, 174.10W	0		0
0.20S, 177.30W	0		0
0.23S, 179.00E	0		0
0.27S, 176.05E	0		0
0.12S, 172.30E	0		0
0.18S, 169.00E	0		0
0.30S, 166.00E	0		0
0.38S, 162.45E	0		0

* Length of the column of water filtered: 5000 m.

three specimens were caught at 164°15'W and 161°06'W, about 2,700 miles farther west.

E. eximia seems very common at 135°00'W, and very abundant east of 126°W. From 92°20'W (beginning of the cruise) to 137°45'W

this species accounts for 50–90% of the whole euphausiid material.

On the other hand, it must be pointed out that, in a number of individuals, the inner protuberance of the anterior margin of the second segment of the first antennal peduncle is trifurcate (Fig. 1) and not simple or bifurcate as usually described (Hansen, 1912; Boden, Johnson, and Brinton, 1955). In some specimens, this protuberance presents four spines (Fig. 2).

DISTRIBUTION OF *Euphausia gibboides*

This species was present more in the west than was previously known (see Table 1).

The farthest westward that a specimen of *E. gibboides* was collected during the Alizé cruise was 148°07'W. This record extends the westward limit of distribution, recorded previously as 132°W (Brinton, 1962).

The species is present between 148°07'W and 126°W, rather common between 126°W and 109°10'W, and common between 109°10'W and 92°20'W (beginning of the cruise).

REFERENCES

- BODEN, B. P., M. W. JOHNSON, and E. BRINTON. 1955. The Euphausiacea (Crustacea) of the North Pacific. Bull. Scripps Inst. Oceanog., Univ. Calif., 6(8):287–400.
- BRINTON, E. 1962. The distribution of Pacific euphausiids. Bull. Scripps Inst. Oceanog., Univ. Calif. 8(2):51–270.
- HANSEN, H. J. 1912. The Schizopoda. Repts. Sci. Res. Exped. Tropical Pacific. . . U. S. Fish. Comm. Steamer "Albatross." Mem.

Mus. Comp. Zool., Harvard College 35:177–296.



FIG. 1. *E. eximia*. Protuberances of the distal end of the second segment of the first antennal peduncle. Foreground: outer protuberance (simple). Background: inner protuberance (trifurcate); on the right, beginning of the dorsal keel of the third segment.

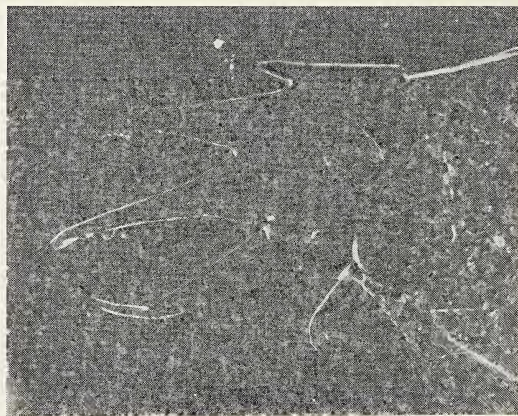


FIG. 2. *E. eximia*. Inner protuberance of the distal end of the second segment of the first antennal peduncle, showing four spine-shaped denticules.